

# PATENT COOPERATION TREATY

REC'D 15 AUG 2006

WIPO PCT

From the  
INTERNATIONAL SEARCHING AUTHORITY.

To:  
Agent  
PEARL COHEN ZEDEK LATZER  
SHENKAR 5.  
HERZILIA, ISRAEL 46733

**PCT**

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <b>11 AUG 2006</b>	
Applicant's or agent's file reference <b>P-7258-PC</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/IL05/01064</b>	International filing date (day/month/year) <b>06 October 2005 (06.10.2005)</b>
Priority date (day/month/year) <b>05 October 2004 (05.10.2004)</b>	
International Patent Classification (IPC) or both national classification and IPC <b>IPC: H04M 1/24( 2006.01),3/08( 2006.01),3/22( 2006.01)</b> <b>USPC: 379/1.04,9,10.01,29.01</b>	
Applicant <b>RIT TECHNOLOGIES LTD.</b>	

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I      Basis of the opinion
- ☐ Box No. II      Priority
- ☐ Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV      Lack of unity of invention
- ☒ Box No. V      Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI      Certain documents cited
- ☒ Box No. VII      Certain defects in the international application
- ☒ Box No. VIII      Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA/ US Mail Stop PCT. Attn: ISA/US Commissioner for Patents P O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion  <b>15 June 2006 (15.06.2006)</b>	Authorized officer <b>BINH K. TIEU</b> Telephone No. (703) 305-3900
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/IL05/01064

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 11-21 YES

Claims 1-10 NO

Inventive step (IS)

Claims NONE YES

Claims 1-21 NO

Industrial applicability (IA)

Claims NONE YES

Claims NONE NO

2. Citations and explanations:

Please See Continuation Sheet

**WRITTEN OPINION OF THE  
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**Box No. VII Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Page 13 was missing in the PCT Application.

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**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 21 was cut-off because of missing of page 13 .

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

**V. 2. Citations and Explanations:**

- I. Claims 1-6 lack novelty under PCT Article 33(2) as being anticipated by Faulkner et al. (US. Pat. #: 6,385,297).  
Regarding claim 1, Faulkner et al. (Hereinafter, "Faulkner") teaches a method comprising:  
electrically connecting a first terminal of a measurement device to both wires of a twisted wire pair of a telephone line, said telephone line interconnects a telephone card with a subscriber (col.8, lines 50-67);  
performing an impairment line testing on said telephone line from said measurement device toward said subscriber (col.8, line 67 through col.9, line 3).  
Regarding claim 2, note resistors R1 and R2 in figure 2.  
Regarding claim 3, note one terminal of the voltage source 30, as shown in figure 2, being connected to a common ground.  
Regarding claim 4, Faulkner further teaches limitations of the claim in col.12, lines 6-15.  
Regarding claim 5, note col.7, lines 2-3.  
Regarding claim 6, see figure 2, col.10, lines 29-59.
- II. Claims 7-10 lack novelty under PCT Article 33(2) as being anticipated by Tennyson (US. Pat. #: 6,466,647).  
Regarding claim 7, Tennyson teaches a method comprising:  
automatically and sequentially performing an impairment line testing on a plurality of telephone lines, at least a portion of said telephone lines are active telephone lines, without disconnecting said active telephone lines from their respective telephone line cards (col.6, lines 29-32 and line 54 through col.7, line 12).  
Regarding claim 8, note col.8, lines 30-48.  
Regarding claim 9, note the test apparatus connected to the cross connect 706 in figure 7.  
Regarding claim 10, Tennyson further teaches that any telephone can be tested in on-hook condition which may carries telephone ringing signals (col.6, lines 29-32).
- III. Claims 11-14 lack an inventive step under PCT Article 33(3) as being obvious over Tennyson (US. Pat. #: 6,466,647) in view of Faulkner et al. (US. Pat. #: 6,385,297).  
Regarding claim 11, Tennyson teaches all subject matter as claimed above, except for the feature of connecting a first terminal

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

of a measurement device to both wires of a twisted wire pair of one of said active telephone lines, and electrically connecting a second terminal of said measurement device to a common reference. However, Faulkner teaches such features in col.8, lines 50-67 and note one of the voltage source 30, as shown in figure 2, connected to a common ground for a purpose of measuring voltage across the tip and ring wires to determine short-circuit existed.

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the use of said features of connecting a first terminal of a measurement device to both wires of a twisted wire pair of one of said active telephone lines, and electrically connecting a second terminal of said measurement device to a common reference, as taught by Faulkner, into view of Tennyson in order to determine the short circuit condition on the twisted pair of telephone line under test.

Regarding claims 12 and 13, Faulkner further teaches measurements of voltages on each of tip and ring wires and across voltage between tip and ring wires, and one terminal of the voltage source 30, as shown in figure 2, connected to a common ground.

Regarding claim 14, Faulkner further teaches limitations of the claim in col.12, lines 6-15.

IV. Claim 15 lacks an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Webber (US Pat. #: 5,309,499).

Regarding claim 15, Tennyson teaches all subject matters as recited in claim 7, and Faulkner teaches all subject matter as recited in claim 11 above. The combination of Tennyson and Faulkner fails to clearly teach the feature of identifying one of said plurality of telephone lines as spare telephone line. However, Webber teaches such concepts in the Abstract of the Patent in order to test subscriber telephone line.

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the teachings of Faulkner and Webber as discussed above, into view of Tennyson, in order to improve the impairment line testing of subscriber telephone line.

V. Claims 16-20 lack an inventive step under PCT Article 33(3) as being obvious over Nakagawa et al. (Pub. No.: US 2003/0076931 A1) in view of Faulkner et al. (US. Pat. #: 6,385,297).

Regarding claim 16, Nakagawa et al. (Hereinafter, "Nakagawa") teaches an apparatus comprising:

a line selector unit connectable to twisted wire pairs of telephone lines able to select one of said wire pairs for an impairment line testing (see subscriber line testing means 12 in figure 1 and 4, paragraph [0059]);

a line status detector to identify the status of said telephone lines (see line monitoring means 11, paragraphs [0019] and [0023]); and

a configuration unit (i.e., maintenance console 3) coupled to said line selector unit and to said line status detector (note paragraph [0058]).

It should be noticed that Nakagawa fails to clearly teach the features of electrically connecting a first terminal of a measurement device to both wires of a twisted wire pair of a selected telephone line and a second terminal of said measurement device to a common reference when said selected telephone line is identified as an active telephone line. However, Faulkner teaches such features in col.8, lines 50-67 and note one of the voltage source 30, as shown in figure 2, connected to a common ground for a purpose of measuring voltage across the tip and ring wires to determine short-circuit existed.

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the use of said features of connecting a first terminal of a measurement device to both wires of a twisted wire pair of one of said active telephone lines, and electrically connecting a second terminal of said measurement device to a common reference, as taught by Faulkner, into view of Nakagawa in order to determine the short circuit condition on the twisted pair of telephone line under test.

Regarding claim 17, Nakagawa further teaches limitations of the claim in paragraphs [0030], [0052] and [0063].

Regarding claim 18, note Faulkner reference wherein one terminal of the voltage source 30, as shown in figure 2, being connected to a common ground.

Regarding claim 19, Faulkner further teaches limitations of the claim in col.12, lines 6-15.

Regarding claim 20, Faulkner further teaches limitations of the claim in col.8, lines 55-58.

VI. Claim 21 lacks an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Chea, Jr. et al. (US Pat. #: 6,480,575).

Regarding claim 21, Nakagawa and Faulkner, in combination, fails to clearly teach configuration unit comprising a splitter. However, Chea, Jr. et al. (Hereinafter, "Chea, Jr.") teaches such feature in figure 3A for a purpose of testing subscriber telephone loop for xDSL services.

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate the use of such configuration unit comprising a splitter, as taught by Chea, Jr. in order to test subscriber telephone loop for xDSL services.